List of Issues of the Record

VOLUME I

No.	I	September, 1925										Pages	I- 40
"	2	October, 1925 .											41-88
4.4	3	November, 1925											89-136
66	4	December, 1925			•								137-186
44	5	January, 1926 .											187-224
44	6	February, 1926.											225-272
			V	OL	U	ME	II						
No.	I	March, 1926 .									10	Pages	I- 40
"	2	April, 1926											41-88
44	3												89-136
66	4	7 /											137-184
66	5	July, 1926											185-224
66	6	August, 1926 .											225-256
		g, -,-											5 -5
	VOLUME III												
No.	I	September, 1926										Pages	1- 22
140.	2	October, 1926.	٠	•	•			•				_	1- 32 33- 68
44	_	November, 1926	•		٠					٠	•		00
"	3	December, 1926	*	•		٠			٠	•			69-104
44	4	January, 1927 .	•					•	•	•			105-144
"	5	February, 1927.	•		•	٠		•	•	•	•		145-184
	O	rebluary, 1927.	•		٠				•	•	•		185-224
			V	OL	UI	ME	I	V					
NT		Maria										D	,
No.	I												225-256
66	2	April, 1927		•	٠			٠		•	•		257-296
66	3	May, 1927			•			•	•	•			297-336
44	4					•							337-380
44	5										•		381-416
	6	August, 1927 .			•	٠		•	•	•	•		417-448
			7	701		MI	7 V	7					
			'	101	LU	1411	· V						
No.	I	September, 1927							•	•		Pages	1- 32
4.4	2	October, 1927 .			•								33- 68
66	3	November, 1927											69-100
**	4	December, 1927											101-136
44	5	January, 1928 .											137-172
66	6	February, 1928.											173-204

VOLUME VI

No.	I	March, 1928 .									Pages	205-236
44	2	April, 1928							•			237-272
66	3	May, 1928							•			273-312
66	4	June, 1928										313-348
66	5	July, 1928										349-384
"	6	August, 1928 .										385-420
			V	OL.	UN	ſΕ	VI	I				
No.	I	September, 1928									Pages	1- 32
"	2	October, 1928 .										33- 72
66	3	November, 1928										73-136
66	4	December, 1928										137-176
66	5	January, 1929 .										177-216
66	6	February, 1929.										217-260
66	7	March, 1929 .										261-304
66	8	April, 1929										305-344
. 66	9	May, 1929										345-384
66	10	June, 1929										385-432
66	ΙI	July, 1929										433-480
66	I 2	August, 1929 .										481-532

Index of Authors

A

ADAM, A. O	Human Errors and the Dial Telephone	VII— 44
Adolph, W. J	Polishing the Contacts of	VII— 44 V— 85
Allen, L. M	Telephone Plugs Routine Tests in a Panel	
Allison, S. W	Office	VII—365 V—156
Arnold, H. D	An Introduction to "Speech and Hearing"	VII—217
	Researches	II—161
	Systematized Research	VI—313
	В	
BARKER, L. J	After Office Hours	III—120
Beardsley, H. I	Operators' Transmitters and Receivers	VII—203
Вескег, Ј. А	The Life History of an Ad-	
Bell, J. H	sorbed Atom Carrier-Current Teleg-	V— 12
	raphy	I—187
Betts, W. L	Composite Telegraphy Psychology Aids in Tests	VII—140 V—185
Веття, Р. Н	of Hearing Telephone and the Switch-	-
BLACK, H. S	ing Locomotive Short-Haul Carrier System	II— 79
	(Type D-1)	VI—353
BLATTNER, D. G	Phonograph Records of Heart Sounds	VI—282
Воеск, С. Г	A Carrier Telephone System for Power Lines .	VII—451
Bostwick, L. G	What's a Good Loud	
Bowne, L. J	Speaker?	VII—347
2000a, 20 J	for the Retail Shop (No. 2 Order Turret)	VII—270
Bruce, E	Short-Wave Receiving Antennas	VII—514
Burgess, H. A	Patents as Means of Publi-	VII—314

	VI—248
Corrosion of Lead Cable	
Sneath	VII—187
C	
L	
Emergency Power-Supply	
,	171 0
	VI—318
	VII—433
	VII—433
	III—201
	V—141
Panel Fundamental Circuit	VII-395
Harold W. Nichols	I—193
	VI411
	377
	VI—407
	VI—396 II—109
	11—109
•	VII— 33
Anniversary of the Labora-	00
tories	I—185
	I—120
	T 7 0
	V— 80
	VI—363
	VI—303
	VI-294
	/ 1
Transmitter	VI-329
A Compact Direct-Current	
	V— 46

	III—191
	VI. aar
	VI—237
	IV225
	Corrosion of Lead Cable Sheath

-

DAHL, H. A	Amplification Behind the Talking Movies (41A, 42A and 43A Amplifiers)	VI—285
	32-A Amplifier	II—236
DALTON, A. G	Inspection Engineering in	0
,	the Field	VII—117
Daly, A. J	Closing the Books	III—160
DANIELSON, O. H	Announcing System	II-214
DARROW, K. K	The Aurora	II— 41
	Mechanics Old and New .	IV-417
	The Nobel Laureates	VII— 38
	Particles and Waves	VII—178
DAVISSON, C. J	Are Electrons Waves?	IV-257
DEKAY, R. D	Ringing Machines for Small	
,	Offices	VII-246
DICKINSON, L. E	High Voltage Storage Bat-	
	tery	V-163
DIMOND, T. L	Counteracting Dialing Er-	
2	rors in the Step-by-Step	
	System	VII-198
Dixon, A. F	Development of Communi-	, .
	cation Systems	II—, 67
	Twenty Years at West	,
	Street	V-138
Dodge, H. F	Quality Rating of Tele-	
	phone Products	IV-392
Dodge, W. L	Development of Step-by	3)-
, ,,,,	Step Line Finders	VII—236
Douglass, H. T.	Transmission Testing of	111 230
200021100, 221 21	Central Office Circuits .	VII-283
Dow, J. L	The Local Circuit Develop-	, 11 203
2011, 31.21.	ment Laboratory	VI-253
Dowey, T. L	Public Address Systems .	III— 50
Dring, A. W	Cable Terminals	VII— 11
210110,111 1111	cubic reminals	
	E	
F		
EARL, L	Continuous Charging for	
	Automatic Branch Ex-	377 0
F C W	changes	VI—389
Elmen, G. W	The Perminvars, a Group	****
Т. т.	of New Magnetic Alloys	VII— I
Elmer, L. A	Rotating the "Wax" for	****
	Sound Pictures	VII—445

Englund, C. R	A Practical Short-Wave Oscillator	V— 49
Erwin, E. L	Hunting Features in the	
E D. II	Panel System	VII— 5
Evans, P. H	Installing Radio Broadcast- ing Equipment	I—229
	F	
FALK, A. H	Assembly Methods for Loading Coil Cases	I—263
FARMER, W. J	High-Strength Aluminum Alloys for Diaphragms.	VII—190
FARNELL, W. C. F	Reconstructing the Past .	III—212
FERGUSON, J. G	Announcing the 740-A	
	PBX	VI—399
FERRELL, E. B	The Transatlantic Short- Wave Transmitters	VII-497
FIELD, F. E	Evolution of the Input	.,,
	Transformer	III— 33
FIELD, J. C	Dispatching Trains by Tel-	III—108
	ephone	111—108
	patching	IV-230
FINDLEY, P. B	Apparatus Development	5
	Department	II—115
	Our Historical Museum .	I—137
	Research Department	II—164
	Systems Development De-	TT (
F E I	partment	II— 69
FISHER, E. L	Coil Corrosion	VII—155
FLETCHER, H	Children's Hearing Hearing Aids and Deaf-	II—154
	ness	V— 33
FOLKNER, G. W	Gauges for Machine-	33
	Switching Equipment .	III—166
FONDILLER, W	A New Era in Loading	V 1
Forsberg, O. F	Measuring Dial Speeds	IV—427
FOWLER, G. F	Radio Engineers Visit the Laboratories	II— 28
FRACKER, E. G	When the Radio Squeals .	III—113
Frederick, H. A	Recent Advances in Wax	3
	Recording	VII— 85
Friis, H. T	Determining Short Wave	
	Paths	VI—359
Froberg, M. A	Commercial Generator for	
	Central Office Power	V
	Plants	V-113

Fry, T. C	Differential Equations and Law	VI—278
	"What are the Chances That"	V—191
Fullerton, W. O	A New Cordless Switch- board	VII—331
Fultz, M. E	Transmitting Station at Lawrenceville, N. J.	VII—489
	G	
GARGAN, J. O	Water Cooling for Radio . Water Cooling in Radio	VI—221
GERKS, I. H	Broadcasting Extending the Usefulness	I-251
	of the Oscillograph in Circuit Testing	VII—352
GIFFORD, W. S	Correcting a Mistaken Idea	VII—154
GIFFORD, W. S	New Year's Greeting-	
	1926	I—205
	The policy of the Bell Sys-	WII (
	tem	VII—464
	President Gifford Addresses	VIII
	the Laboratories A Statement of Policy	VII—345 V—101
	Work of Laboratories In-	V—101
	volved in New Tele-	
	graph Company Con-	
*	tracts	VII— 28
GILSON, A. F	Early Cable Terminals	VI—366
GLEASON, D. H	Measuring the Resistance	3
	of Sliding Contacts	IV-285
GLENN, H. H	NT C 1 1 T'	II—196
	Textiles for Insulation in	
	Telephone Equipment .	II— 53
	Washed Textile Insulation	
	for Central-Office Wir-	7777
C O M	ing	VII—311
GLUNT, O. M	0	V (-
GRAY, F	casting Transmitters	V— 69
GRAY, F	Direct Scanning in Tele-	VII and
	vision	VII—276
	Eye	VI-325
	н	
HALLENBECK E I	Inspection Engineering De-	
IMPLENDECK, F. J	partment	II—243

.

HALLENBECK, F. J	Patent Department	II-207
HAMPTON, L. N	Brake for Rolling Ladders	V-145
HANCE, P. D., JR	Eleven Miles of Wire	IV-435
HARGAN, A. D	Odd Tools for Machine-	
	Switching Apparatus .	III— 9
HARPER, R. W	Private Branch Exchanges	VII-226
HARRIS, J. E	Platinum Alloys for Vacu-	
, , ,	um Tube Filaments	VI-242
HARTLEY, R. V. L	Mechanical Filters	IV—266
IMRILEI, K. V. L	Transmission Limits of	1 V 200
		I 225
	Telephone Lines	I—225
II.	"TU" Becomes "Decibel".	VII—137
HARTNETT, J. S	General Staff Department.	II— 21
	The Life of a Pioneer	III— 96
	The Polarity of Learning.	V— 39
	What is Service?	III— 63
HAYES, A. W	The Transmitter Life Test	III— 94
HAYFORD, W. S	A Modern Inquisition	III— 91
HEARD, W. L	Cutting Expense Corners in	**
	Systems Drafting	V— 22
	Drafting of Telephone Sys-	***
	tems	IV—396
	Graphical Symbols for Tel-	
i,	ephone and Telegraph	****
	Use	VII—368
	Saving the Tracing in the	••
	Systems Drafting Room	V— 88
	Tooling-Up the Drafting	
	Room	V—194
Heindel, H. J	Concealing the Wires	III— 24
Heising, R. A	Ionized Regions in the At-	
	mosphere	V—173
Herber, J. C	Frequency Control for	
	Broadcasting Capability Engineering of	VII— 24
HIBBARD, F. H	Capability Engineering of	
	Step-by-Step Relays	VII—459
HIPPENSTEEL, C. L	New Rubber Compression	
	Testing Machine	V—153
Hocker, C. D	Cable Corrosion	IV—273
HOERNEL, P. C	The Artificial Line	I— 51
Hogg, J. L	The Use of Codes in Elec-	**
	trical Communication .	V—181
Honan, E. M	Why the Time Clock Knobs	**
	are Black	II— 31
Horton, J. W	Multiplex Transmission by	
	Carrier Currents	I—147
HOYT I G	The r-A Audiometer	V-150

	Developments and Savings in Contact Materials .	II— 7
Ives, H. E	Photoelectric Cells Television in Colors	II—185 VII—439
	J	
JEHLE, A. O	Our Budget	I—194
JENSON, A. G	Measuring Sets for Radio.	II—177
Је wетт, F. В.	Anniversary of the Labora-	T -0-
	tories	I—185
	Research	VII-261
	To the Men and Women of	111 201
	Bell Telephone Labora-	
,	tories	VII—177
	Research Methods	VI—349
Johnson, E. D	Transmission Regulating	VII—183
Johnson, E. J	Systems for Toll Cables . Light Finish in Central Of-	V11103
jointoon, E. j	fices	IV-355
Johnson, J. B	Cathode Ray Oscillograph	II— 57
-	Thermal Agitation of Elec-	
T	tricity	III—185
Johnsrud, A. L	Very Thin Films of Rubi-	VI—371
Johnston, John	From a Black Art to a	VI—3/1
journers, journ	Science	II 51
Jones, R. C	Cable Development Out-	
	posts	II—124
Jones, R. L	Inspection Engineering	II—241
	K	
KAMMERER, F. S	Stroboscopic Analysis	III—176
Кеітн, С. R	The Grid-Current Modu-	
	lator	VII— 14
	New Languages from Old.	V—187
Kelly, J. B	Phonograph Records Illus-	III. aca
	trating Distortion Speech Sounds	III—204 II—216
KELLY, M. J	Tube Shop	II—137
KENDALL, B. W	Carrier-Current Telephone	137
	Systems	I-154

KENNER, A	Saving Lead in Toll Office	****
W D W	Cables Irving B. Crandall	VII—273
KING, R. W	Irving B. Crandall	IV—406
KINGSBURY, B. A	The Loudness of Pure	
	Tones	III—188
KISHPAUGH, A. W	The Fifty Kilowatt Radio	
	Transmitter	V- 71
	One Kw. Radio Transmit-	•
	ter for Broadcasting	II— 60
Knox, W. G	Development of Light Col-	11 00
moa, w. G	ored Finishes	IV-258
Kony E A		IV—358
KORN, F. A	Level-Hunting Connectors	VII—291
Kruger, M. K	A Slide Rule for Vector	X711
	Calculations	VII—405
KUHN, W	Critical Relays of the Tele-	
	phone System	VII— 51
	L	
	L	
I ACEPTE W I	Stan by Stan Cardless "P"	
LACERTE, W. J		VI
I C F	Board	VI—210
	Auditory Masking	II— 96
LAREW, J. L	Small Power Plants for	****
	Telephone Repeaters .	VII—287
LATHAM, J. C	Technical Reprint Series .	II—107
Legg, V. E	Pressure Testing of Sub-	
	marine Cables	I—164
LIVINGSTON, F. B	From Conference to Cable	III—146
Long, M. B	Introducing the 1926 Col-	
	lege Graduate	III— 60
Lowry, H. H	Power Equipment for Safe-	
201111, 121 121 1 1 1 1	guarding Telephone Ser-	
		II— 89
Lum, G. R	vice	11 09
Lom, G. R	Cone	V .o.
T D. T		V—201
LUNSFORD, R. L	How the PBX Gets its	
	Power	III— 87
Lyng, J. J	Development of Apparatus	II—113
	M	
	TVE	
MACKENZIE, D	Sound Recording with the	
WIACKENZIE, D	S.	VII
M	Light Valve	VII— 95
Mahoney, J. A		222
	Frequency Telegraphy .	VII—241
MARINO, R	Trouble Indicator	VII-371

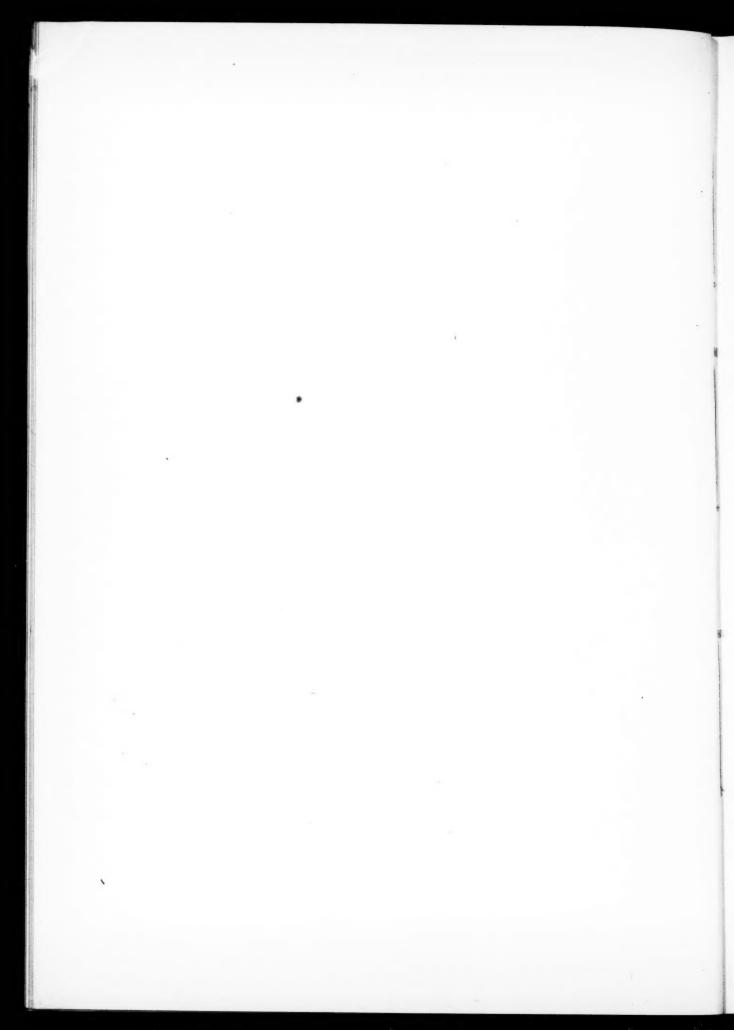
MARRISON, W. A	Some Facts about Fre-	
	quency Measurement .	VI-385
MARSHALL, ANNA K	The Microscope as an In-	
	dustrial Tool	I-235
	A Tour Through the Mi-	
	croscopic Laboratory .	V- 15
MARTIN, D. K	Laying a Foundation for	,
11111111111111111111111111111111111111	Aircraft Communication	VII-315
Mason, W. P	Acoustic Filters	VI—392
MATHISON, D. W	Wax Lubricants	IV—390
MAXFIELD, J. P	Electro-Mechanical Sound	11-390
MAAFIELD, J. I	Recording	I—197
	The Vitaphone	II—200
McConvigue D D	-	11-200
McCormack, D. R	Printing Telegraph Con-	II
M V I W	nections with Hawthorne	II—121
McKeehan, L. W	Clear as Crystal	II— 3
	Iron Crystals	IV—343
	A Physical Background for	***
	Permalloy	III—105
McMurry, F. R	Telegraphy by Typewriter	III— 3
MEAD, E. D	Saving by Swaging	III— 83
Melhuish, L. E	An Announcing System for	
	Battleships	IV-270
MERCNER, R.O	Research Design	IV—370 II—103
MEYER, D. C	Telegraph Equipment	II—103
MILLER, R. A	A New Amplifier for Train	
	Dispatching	IV-229
MILLS, JOHN	D&R	III— 15
	The Silent Drama of Tele-	
	phony	III 39
	Two-Way Transatlantic	3,
	Radio Telephony	II— 44
Монтснук, Е	Accelerated Laboratory	11
Montellik, L	TT.	III—155
Moore, C. R	Eavesdropping on Bank	111—155
MOORE, C. R		IV-363
		1v—303
	Electro-Mechanical Oscil-	TX7
	lator	IV—237
Moravec, J. E	Life Insurance Protection.	VI—298
	Our Insurance Plan	VI—245
	Report on Employees' Ben-	
	efit Fund	VI—226
Morrison, G. F	Apparatus Which Makes	
·	Air a Liquid	I-259
	Cooling our Drinking Wa-	3,
	ter	IV-403
MOTLEY, J. G	Sound-proof Rooms	VI—322
are very series in the contract of the contrac	COMING DI COL ALCOHIO	1 4 144

Neill, P	Fifty Years of Telephone Plugs	V—104
Nelson, E. L	Our New Radio Labora-	
Newman, D. H	tory at Whippany Radio Installation in South	III— 46
NEWMAN, D. II	America	VI—216
	0	
	•	
OAKES, W. C	Straightforward Trunking	VII—323
O'Brien, L. A		1711
Oswald, A. A	England The Story of Short-Wave	VII—385
OSWALD, II. II	Transoceanic Telephony	VII—481
Отіs, R. M	Cosmic Rays	II—225
	P	
PAGE, A. W	Vice President Page Ad-	
D D. C	dresses the Laboratories	VII-465
PAINE, R. C	The Pulse Corrector	VII—361
Pascarella, A. J	Locating Faults on Toll Lines	VII—161
PAYOR, CLARA S	Telephone Dictation	I—122
PETERSEN, R	New Telephone Systems	1 122
	Drafting Room	I-255
Peterson, E	Atomic Physics and Circuit	
D 7.6	Theory	VII-231
PETTIT, I. C	Magnetic Materials	III—171
PIERCE, P. H	6025-B Amplifier	II—151
Polkinghorn, F. A	The Transatlantic Short-	****
Donman I E	Wave Receivers	VII—510
PORTER, L. F	A New Type of Toll Switchboard	IV—337
PRITCHARD W T	Novel Devices for Lubri-	1v—337
TRITCHARD, W. I	cation	IV-367
PROUTY, GRATIA L		I—107
	The Rest Room in New	
	Dress	VII— 29
	0	
	Q	
Quass, R. L	Trunk Hunting Switches .	VII—157

RASMUSSEN, F. J	Frequency Measurements with the Cathode-Ray	
	Oscillograph	IV-281
RAYMOND, R	All-Relay Register Circuit .	VII-400
	The Decoder	VI—273
REDDING, W. C	Development of the 1800-	
	Pair Cable	VII221
RICHARDS, W. L	Early Models of the Tele-	
	phone	II— 65
RITCHIE, G. A	Lever-Type Keys	VII— 56
Roberts, J. G	Patents	II—205
RUBLY, H. C	Cable Splicers' Test Set .	V-116
Ryan, F. M	Hawaiian Radio Survey .	II228
	A New Radio Receiver for	
	Commercial Airplanes (No.	
	6008-A)	VII—319
	S	
	3	
SANTEE, H. B	Installation and Adjustment	
SANTEE, II. B	of Western Electric	
	Sound-Projector Systems	VII—112
SAVAGE, E. S	Terminal Strips	VI—333
SAWYER, W. G	The Printed Form	IV_{-233}
Schelling, J. C	Long Waves or Short	IV233
SCHUMACHER, E. E	The Hardening of Lead.	IV—349 IV—420
SCHUMACHER, E. E	Spectrographic Analysis .	VI—289
SCHWARTZ, E. L	Permalloy in Audio Trans-	VI-209
SCHWARTZ, E. L	formers	VI-259
SCRIVEN, E. O	Sound-Projector Systems	VI-239
SCRIVEN, E. O	for Motion-Picture The-	
	atres	VII—106
Scully, W. J	Panel Senders	VII—100 VII—143
SHEWHART, W. A	Best Use of Experience.	II—143
SIEGMUND, H. O	The Electrolytic Condenser	IV—276
SLAUGHTER, N. H	Four Years' Progress in	11-270
SLAUGHIER, IV. II	Radio Broadcasting	III— ı
Sмітн, Е. Н	New Step-by-Step Equip-	111 1
SMITH, E. 11		V- 7
Sмітн, Р. С	ment	V— 7
SMITH, T. C	ical Switching	VII—265
Snook, H. C	Hearts or What Men Live	VII—205
51.00K, 11. C	D	I— 41
STAAB, MARGARET K	,	41
OTAAB, WARDAREI K	lars	II— 75
	1413	11

STACY, L. J	The Electromagnetic Os- cillograph in the Circuit	VII
Steinberg, J. C	Laboratory Fundamentals of Speech, Hearing and Music	VII—327 VII— 75 II—234 III—153
Sterba, E. J	Short-Wave Transmitting Antennas	VII—502
STOLLER, H. M	Speed-Control for the Sound Picture System. The Television Timer.	VII—101 IV—386
	T	
Тномая, G. В	Human Relations in Employment	III— 6 IV—243
Thuras, A. L	cation	II— 14 VI—409
Townsend, J. R	Ceiver	VI—205 III—198 V—178 V—119
	v	
VAN DUYNE, C. W VAN INWAGEN, C. L	Insuring Central-Office Power Supply Mechanical Distribution of	VII— 21
VAN ZELM, H. B	Toll Tickets How the Laboratories are	III— 72
Vogel, J. C	Heated	II— 76 IV—399
	\mathbf{w}	
WALKER, A. C WEBER, A. F	Textiles as Insulators Recent Retirements from Active Service	VII—305 VII— 63

WEBER, A. F			Retired from Active Ser-	
			vice	IV-424
WEGEL, R. L			The Mechanical Delay-	
			Network	VII—147
			A Piano-String Model of	
			the Human Ear	III—117
WENTE, E. C	•	•	General Principles of	****
			Sound Recording	VII— 81
			Speech Interpretation in	WII
Warren I LI			Auditoriums	VII— 47
WHITE, J. H WHITING, D. F	•	٠	Working the Base Metals.	V— 76
	•	•	Selecting an Amplifier	II—145
WILBER, R. S	•	•	Toll-Line Signalling	VII—391
WILLARD, S. H	•	•	Transformer Station Insulation for Submarine	II—2 I I
WILLIAMS, R. R	•	•		IV 201
WILLIS, F. C			Cables	IV—381
WILLIS, F. C	•	•	Point	IV—261
WILSON, J. M			Sheet Insulating Materials	V— 53
WILSON, W	•	•	New Short-Wave Radio	v— 33
WILSON, W	•	•	Stations	VII-435
			Reducing the Cost of Elec-	433
			trons	III— 69
WOOD, E. B:			Humidity Test Equipment.	V-108
(1002, 21.21.	•		zamiany zou zquipment :	
			Y	
v				****
Young, C. R	•	•	Condensers for Many Uses	VII—411
			Z	
ZAMMATARO, S. J.			Development of the Im-	
			pedance Bridge	VII—150
			Transmission-Measuring	
			Set	II— 98
Zogbaum, F			Remote Control of Power	**
			Stations	II—171



Index of Subjects and Titles

Accelerated Life Tests (see Measurements)		
Accounting Methods	Daly	III—160
Acoustics (see Sound)	,	
Adjustments (see Maintenance)		
African Speech Electrically Recorded		I— 29
Aircraft and Airways Communication		
Airways Communication Service	Craft	VII— 33
Purchase of Fairchild Monoplane		VI—292
Radio Receiver for (No. 6008-A)	Ryan	VII—319
Transmission Studies in Airplane	Martin	VII—315
Alloys (see Metals)		
Aluminum (see Metals)		
Amplifiers (see also Loud Speakers; Public		
Address Systems; Radio; Sound Pictures; Vacuum Tubes)		
for Condenser Transmitter (No. 47-A).	Curl	VI—329
for Direct Current Supply (No. 6031-A).		VI—329 V— 46
No. 6025-B for Radio		II—151
Selecting an Audio-Frequency Amplifier		II—145
for Train Dispatching (No. 33-A)		III—145 III—229
Antennas (see Radio, Transatlantic S. W.)		111—229
Apparatus Analysis	Covne	VI-206
Artificial Line		
A. T. & T. Policy		**
11. 11. 11. 11. 11. 11. 11. 11. 11. 11.		VII-345
	Page	
A. T. & T. Stock Plan	•	I—109
		III—159
		VI-336
Atomic Physics and Circuit Theory	Peterson .	
Atoms (see Structure of Matter)		
Audiometer		
No. 3-A		
No. 4-A		
	Hoyt	V—159
Audiphone (see Sound)	-	
Aurora		II— 41
		I—152
Auditoriums, Speech Interpretation in		VII— 47
Bell System Organization		I— 62
Bell System Policy (see A. T. and T. Policy)		
Benefit Fund Report		TT
For 1925		II— 40
For 1926		IV—232
For 1927		V—226
For 1928		VII—295

Biography (see also Dire													
phone Laboratories			-										
Laboratories, Serv	ice		Но	nor	·s,	V	all						
Medal Awards)													7
Arnold, Harold D.	•		•	•			٠			•	٠		I— 26
													VI—411 VII—202
Barrett Garrett O									- 5				
Bassett, George O.													VII—335
Charlesworth, Harry													VII—235 VII—196
Clifford, Edward P.	٠	•	٠	٠	٠	•	٠	•	•	•	٠	•	VII—196 VII—208
Cools E D													I— 78
Craft, E. B	٠	•	•	•	•	٠	,	•	•	•	•	•	I—119
													II—206
Crandall, Irving B.													IV—330
Crandan, Irving B.	•	•	•	•	٠	•	•	٠	•	•	•	•	IV—406
Dixon, A. F													I— 61
Elmen, G. W													III—107
Elinen, G. W	•	•	•	•	٠	•	•	•	•	•	•	•	IV—241
Field, Frank E													IV—331
Grace, Sergius P													I—250
Houskeeper, William	Ċ	•	•	•	•	•	•	•	•	•		•	I— 32
Ireland, Roy R													I—172
Ives, Herbert E													IV—395
Jewett, Frank B													IV—385
Jewett, Frank B	•	•	•	•	•	•		•	•	•	•	•	VII—195
													VII—279
													VII—282
Jones, R. L													I—206
Lowe, Charles W.													I—171
Lyng, J. J													I—118
Nichols, Harold W.	•	•	٠	•	•	•		•	•	•	•	•	I—166
Trichols, Harold W.	•	•	•	•	•	•	•	•	•	•	•	•	I—193
Norton, P													II—195
						•	•	•	•	•	•		VII— 60
Roberts, J. G				•	•	•	•	•	•	•	•	•	I—170
Scribner, Charles E.				•	•	•	•	•	•	•	•	•	II—249
Shreeve, Herbert E.								•	•	•	•	•	II—195
Thayer, Harry Bates									•		•	•	VII— 20
Watson, Thomas A.											•	•	III— 96
											•		
Young, Harry E Brake for Rolling Ladde											011	•	I—171
Brake for Rolling Ladde							٠	1.	iun	ipi	on	•	V—145
Broadcasting (see Radio Budget, Preparing the								7	ohl	0			I—194
Burglar Alarm for Bank									Ioe		•	•	IV—363
Durgial Maille for Dalik	V	aul	13				•	11	100	116		•	11-303

Cable (see also Terminals, Cable)		
	Hocker	IV—273
	Burns	VII—187
Development, History	Livingston .	III—146
Development of the 1800-Pair Cable		VII-221
	Jones	II—124
	Williams	IV-381
Lead Cable Sheath		III—198
Long-Distance Cable Network		III—193
New York-Azores Cable		I—116
New York-Chicago Cable		
New York Clausland Cable		I— 70
New York-Cleveland Cable		V—103
Pressure Testing of Submarine Cables .		I—164
Saving Lead in Toll Office Cables	Kenner	VII—273
"Signal Shaping" for Submarine Tele-		
graph Cables	Curtis	VI—237
for a Special Test Panel	Hance	IV-435
Splicers' Test Set (No. 43-A)	Rubly	V-116
String Oscillograph for Submarine Tele-		
graph	Curtis	IV-225
Carrier-Current Systems and Equipment (see		
also Radio; Telegraphy; Toll Systems)		
Australia Welcomes the Carrier System .		I-152
Carrier-Current Telephone Systems	Kendall	I—154
Modulator, Grid-Current	77	VII— 14
Multiplex Transmission by	Horton	I—147
for Power Lines	Boeck	VII—451
Short-Haul Carrier System (Type D)	Black	VI—353
Transmission Regulating System for Toll		****
Cables		VII—183
Canada, Carrier Telegraph in	Burkholder.	VI—248
Capability Engineering of Step-by-Step Re-		
lays	Hibbard .	VII—459
lays		
graph)		
Chemistry	Johnston .	II— 51
Circuit Development Laboratory	Dow	VI-253
Codes in Electrical Communication	Hogg	V-181
	Fisher	VII-155
College Graduate, Introducing the		33
1925		I- 71
1926		III— 60
1927		V— 62
1928		VII—120
T 1 1 1 7 1		V— 39
Colloquium, A History of the	Crandall	I—120
Composite Telegraphy (see Telegraphy)	Cranaan .	1-120
Composite Telegraphy (see Telegraphy)		

Condenser, Electrolytic	Siegmund .	IV-276
Condensers for Many Uses		
Connectors (see Dial Systems)		
Contact Materials, Developments and Sav-		
ings in	Irwin	II— 7
Contact Resistance, Measurement of	Gleason	IV—285
Cords and Cord Tips	Glenn	II—196
Corrosion		11 190
	Hocker	IV-273
cubic corrosion	Burns	VII—187
Coil Corrosion	Fisher	VII—155
Cosmic Rays		II—225
Crystals (see also Radio)	McKeehan .	II— 3
of Iron	McKeenan .	IV—343
D & R Department	Mills	III— 15
Deafness (see Sound)	** .	****
Decibel	Hartley .	VII—137
Decoder (see Dial Systems)		
Delay Network		
Electrical	Crawford .	
Mechanical	Wegel	VII—147
Departments of Bell Laboratories (see Or-		
ganization of Bell Laboratories)		
Development Branch of Western Electric .		I-202
Dial Systems and Equipment (see also Main-		
tenance)		
Panel Systems and Equipment		
All-Relay Register Circuit	Raymond .	VII400
Decoder	Raymond .	
Hunting Features in the Panel System.	Erwin	
Mechanical Brain	Mills	
Panel Fundamental Circuit	Collis	
Panel Senders	Scully	
D : M : D : OM	***	
	Atten	V11—305
Step-by-Step Systems and Equipment	D:	VII0
Counteracting Dialing Errors in	Dimond	
Development of Line Finders for	Dodge	VII—236
Level-Hunting Connectors	Korn	VII—291
New Step-by-Step Equipment Adapted		**
to High Frames	Smith	V— 7
Pulse Corrector	Paine	VII—361
Step-by-Step Cordless "B" Board	Lacerte	V-210
Diaphragms, High-Strength Alumium Alloys		
for	Farmer	VII—190
Differential Equations and Law	Fry	VI-278
Directors of Bell Telephone Laboratories .		I— 19
E. S. Bloom		III— 49
W. F. Hosford		V-196

Drafting		
Cutting Expense Corners in Systems— .	Heard	V- 22
Drafting of Telephone Systems	Heard	IV-396
Graphical Symbols for Telephone and		3,
Telegraph Use	Heard	VII-368
Saving the Tracing in the Systems—		V 88
Telephone Systems Drafting Room		I-255
Tooling-Up the Drafting Room (Wrico		33
Special Guide CC-1)	Heard	V-194
Dufour Oscillograph (see Oscillograph)		, ,
Duplex Telegraphy (see Telegraphy)		
Ear (see Sound)		
Echo Elimination in Transatlantic Service .	Crawford .	V— 80
Education, Industrial Experiments in		I— 30
Education, Sound—A Problem in	Thomas .	II— 14
Electro-Mechanical Sound Recording	Maxfield .	I—197
Electrolytic Condenser	Siegmund .	IV-276
Electronics (see Matter, Structure of)		•
Employee Relations Policy	Thomas .	III.— 6
Fatigue Testing (see Testing)		
Faults on Toll Lines, Locating	Pascarella .	VII—161
Field Strength Measuring		
in Laboratories Plane	Martin	VII-315
Portable Set to, Measure Field Strength .	Jensen	II—177
		//
Transmission Measuring Set	Zammataro	
Transmission Measuring Set	Zammataro	
Transmission Measuring Set Filters (see also Carrier-Current Systems;	Zammataro	
Transmission Measuring Set Filters (see also Carrier-Current Systems; Radio; Sound; Telegraphy)	Zammataro	II— 98
Transmission Measuring Set	Zammataro Mason	II— 98 VI—392
Transmission Measuring Set	Zammataro Mason Hartley	II— 98 VI—392 IV—266
Transmission Measuring Set Filters (see also Carrier-Current Systems; Radio; Sound; Telegraphy) Acoustic Filters Mechanical Filters for Sound Pictures	Zammataro Mason Hartley	VI—392 IV—266
Transmission Measuring Set Filters (see also Carrier-Current Systems; Radio; Sound; Telegraphy) Acoustic Filters Mechanical Filters for Sound Pictures Finishes	Zammataro Mason Hartley Elmer	VI—392 IV—266 VII—445
Transmission Measuring Set Filters (see also Carrier-Current Systems; Radio; Sound; Telegraphy) Acoustic Filters Mechanical Filters for Sound Pictures Finishes Development of Light-Colored Finishes .	Zammataro Mason Hartley Elmer Knox	VI—392 IV—266 VII—445 IV—358
Transmission Measuring Set Filters (see also Carrier-Current Systems; Radio; Sound; Telegraphy) Acoustic Filters	Zammataro Mason Hartley Elmer Knox Johnson .	VI—392 IV—266 VII—445 IV—358 IV—355
Transmission Measuring Set Filters (see also Carrier-Current Systems; Radio; Sound; Telegraphy) Acoustic Filters	Mason Hartley Elmer Knox Johnson . Honan	VI—392 IV—266 VII—445 IV—358 IV—355 II— 31
Transmission Measuring Set	Mason	VI—392 IV—266 VII—445 IV—358 IV—355 II— 31 IV—402
Transmission Measuring Set Filters (see also Carrier-Current Systems; Radio; Sound; Telegraphy) Acoustic Filters	Mason	VI—392 IV—266 VII—445 IV—358 IV—355 II— 31 IV—402
Transmission Measuring Set Filters (see also Carrier-Current Systems; Radio; Sound; Telegraphy) Acoustic Filters	Mason	VI—392 IV—266 VII—445 IV—358 IV—355 II— 31 IV—402
Transmission Measuring Set Filters (see also Carrier-Current Systems; Radio; Sound; Telegraphy) Acoustic Filters	Zammataro Mason Hartley Elmer Knox Johnson . Honan Herber	VI—392 IV—266 VII—445 IV—358 IV—355 II— 31 IV—402 VII— 24
Transmission Measuring Set Filters (see also Carrier-Current Systems; Radio; Sound; Telegraphy) Acoustic Filters	Mason	VI—392 IV—266 VII—445 IV—358 IV—355 II— 31 IV—402 VII— 24
Transmission Measuring Set Filters (see also Carrier-Current Systems; Radio; Sound; Telegraphy) Acoustic Filters	Mason	VI—392 IV—266 VII—445 IV—358 IV—355 II— 31 IV—402 VII— 24 VI—385 I— 78
Transmission Measuring Set Filters (see also Carrier-Current Systems; Radio; Sound; Telegraphy) Acoustic Filters	Mason	VI—392 IV—266 VII—445 IV—358 IV—355 II— 31 IV—402 VII— 24
Transmission Measuring Set Filters (see also Carrier-Current Systems; Radio; Sound; Telegraphy) Acoustic Filters	Mason	VI—392 IV—266 VII—445 IV—358 IV—355 II— 31 IV—402 VII— 24 VI—385 I— 78 II— 75
Transmission Measuring Set	Mason	VI—392 IV—266 VII—445 IV—358 IV—355 II— 31 IV—402 VII— 24 VI—385 I— 78 II— 75 I—221
Transmission Measuring Set	Mason	VI—392 IV—266 VII—445 IV—358 IV—355 II— 31 IV—402 VII— 24 VI—385 I— 78 II— 75 I—221 VII— 14
Transmission Measuring Set	Mason	VI—392 IV—266 VII—445 IV—358 IV—355 II— 31 IV—402 VII— 24 VI—385 I— 78 II— 75 I—221 VII— 14 VI—407
Transmission Measuring Set	Mason	VI—392 IV—266 VII—445 IV—358 IV—355 II— 31 IV—402 VII— 24 VI—385 I— 78 II— 75 I—221 VII— 14

Hearing (see Sound) Heart Sounds (see also Electrical Stetho-		
scope)		
Recording of		I—167
	Blattner .	VI-282
History		
	Richards .	II 65
First Underground Telephone		II—238
		I—234
	Findley	I—137
Reconstructing the Past		III—212
Telephone Signalling		I-241
m	D.	I207
Twenty Years at West Street	Dixon	V—138
Humidity Test Equipment	Wood	V—108
Hunting Features in the Panel System	Erwin	VII— 5
Impedance Bridge, Development of	Zammataro	VII—150
Inductance Standard	Vogel	IV-399
Industrial Research, Leadership in	Jewett	VII—261
Inertia Microphone	Moore	IV—363
Information Desk, Rotary File Type No. 2	Cruser	VI—294
	Cruser	V1—294
Inspection Engineering		
Department		II—243
in the Field	Dalton	VII—117
Inspection Theory	Shewhart .	II—189
Quality Rating of Telephone Products .	Dodge	IV-392
Viewpoint of Inspection Engineering	Jones	II-241
Insulation		
Sheet Insulating Materials	Wilson	V- 53
for Submarine Cables		IV-381
Textiles as Insulators		VII—305
Textiles as Insulators	Glenn	II— 53
Washed Textiles for	Glenn	VII—311
	Gienn	V11—311
Insurance	1.7	371
Life Insurance Protection		VI—298
	Moravec .	VI-245
Sensible Viewpoint on		VII— 67
International Western Changes Owners		I— 67
Inverted Speech	Keith	V-187
Ionization (see also Vacuum Tubes)		
	Heising	V-173
Ionization Manometer		III— 26
Iron Crystals	McKeehan .	IV—343
Keys, Lever-Type, History of	Ritchie	VII— 56
Laboratory, Interior Wiring	Heindel	III— 24
Lead (see Cables, Metals)		
Life Testing (see Maintenance) Line Finders (see Dial Systems)		
· ·		

.

Loading	Fondiller	V— 1
Loading Coil Cases, Assembly Methods for	Falk	. I—263
Loud Speakers		. VII—347
(see also Amplifiers; Public Address		0.,
Systems; Radio; Receivers; Train Dis-		
patching Systems)		
Lubrication		
Lubrication and Wear		
Novel Devices for	Pritchard	. IV—367
Wax Lubricants	Mathison	. IV—390
Magnetic Materials		
Iron Crystals	McKeehan	. IV-343
Magnetic Materials		
Permalloy		
Permalloy in Audio Transformers	Schwartz	•
Perminvars, a Group of New Magnetic		3,
Alloys	Elmen .	. VII— ı
Physical Background for Permalloy	McKeehan	. III—105
Pressure Testing of Submarine Cables .		
Maintenance and Adjustment of Dial Sys-	33	
tems		
Gauges for Machine-Switching Equipment	Follener	. III—166
Measuring Dial Speeds		. IV-427
Routine Tests in a Panel Office		. VII—365
Tools for Machine-Switching Apparatus		3 3
(No. 273, 335, 253, 359)	Hargan.	. III— 9
Trouble Indicator		. VII-371
Manual Systems (see Private Branch Ex-		
changes; Toll Systems)		
Mathematics (see also Inspection Engineer-		
ing)		
Differential Equations and Law	Fry	. VI—278
Differential Equations and Law	Fry .	. V—191
Research in		. I— 15
Slide Rule for Vector Calculations	Kruger .	. VII—405
Matter, Structure of		
Are Electrons Waves?	Davisson	. IV—257
Atomic Physics and Circuit Theory	Peterson	. VII—231
Mechanics Old and New	Darrow.	. IV—417
	Darrow.	. VII—178
Measurements and Testing (see also Inspec-		
tion Engineering; Maintenance; Micro-		
scope; Oscillograph; Sound; Spectro-		
graph; Stroboscope)		***
Accelerated Laboratory Tests		. 111—155
Cable Splicers' Test Set	Rubly .	. V—116

Direct-Reading Inductance Standard	Vogel	IV—399
Frequency Measurement	Marrison .	VI—385
Frequency Measurement with the Cath-		
ode-Ray Oscillograph	Rasmussen.	IV-281
Humidity Test Equipment	Wood	V—108
Impedance Bridge	Zammataro	VII—150
Ionization Manometer		III— 26
Locating Toll Line Faults	Pascarella .	VII—161
Loud Speaker Testing	Bostwick .	VII—347
Measuring to Four Parts In a Billion .	Cioffi	III—201
Portable Set to Measure Field Strength .	Jensen	II—177
Pressure Testing of Submarine Cable	Legg	I—164
Resistance of Sliding Contacts	Gleason	IV—285
Rubber Compression Testing Machine .	Hippensteel	V—153
Strength of Materials	Hayford .	III— 91
	Townsend .	V—119
Transmission Measuring Set	Zammataro	II— 98
Transmission Testing of C. O. Circuits .	Douglass .	VII—283
Transmitter Life Test	Hayes	III— 94
Mechanical Filters	Hartley	IV—266
Medical Department	Thomas.	IV—243
Metals (see also Magnetic Materials)		
Aluminum Alloys for Diaphragms	Farmer	VII—190
Contact Materials, Developments and Sav-		
ings in	Irwin	II— 7
Lead Cable Sheath	Townsend .	III—198
Lead, Hardening of	Schumacher	IV—420
Metal Working	White	V— 76
New Specifications for Raw Materials .	Townsend.	V—178
Platinum Alloys for Filaments	Harris	VI-242
Rubidium, Very Thin Films of	Johnsrud .	VI—371
Steel, Shrinkage of		I— 40
Strength of Materials	Hayford .	III— 91
	Townsend.	V—119
Swaging	Mead	III— 83
Mexico, Telephone Service with		V '90
	Marshall .	I-235
Microscopic Laboratory		V- 15
Model Shop		I— 3
Modulators (see Carrier-Current Systems)		7
Motion of Mechanical Devices, Analysis of		I— 47
Multiplex Transmission (see Carrier Cur-		
rents; Telegraphy)		
Museum (see History of Bell System)		
Neon Lamps (see Television)	D	VII -0
Nobel Laureates	Darrow	VII— 38
Operators' Transmitters and Receivers	Beardsley .	VII-203

Organization of Laboratories (see also Directors of Laboratories)		
Apparatus Analysis	Coyne	VI-396
Apparatus Development Department .	Lyng	II—113
Apparatus 2000 paratus 20paratus 1	Findley	II—115
General Staff Department		II— 21
Inspection Engineering Department		II—241
Inspection Engineering Department	Hallenbeck.	II—243
Inspection Field Engineers	Dalton	VII—117
Medical Department	Thomas .	IV-243
Patent Department	Hallenbeck.	II—207
Research Department	Arnold	II—161
	Findley	II—164
Systems Development Department	Dixon	II— 67
, 1	Findley	II— 69
Western Electric Takes Over Inspections		
Operations		I-125
Oscillators		
Crystals as (see Radio)	,	
Electro-Mechanical	Moore	IV-237
Short-Wave		V— 49
Oscillographs	,	• • • • • • • • • • • • • • • • • • • •
Analyzing the Motion of Mechanical De-		
vices		I- 47
Cathode-Ray	Johnson .	II— 57
in the Circuit Laboratory	Stacy	VII-327
in Circuit Testing	Gerks	VII—352
Dufour Cathode-Ray	Cole	V—141
Frequency Measurements with Cathode-	Gon	, 141
Ray Oscillograph	Rasmussen .	IV-281
		V—156
Integrating the Area of an Oscillogram .		
String Oscillograph in Peace and War .	Curtis	IV—225
Testing for Overloading of Vacuum Tubes	Willis	IV—261
Panel Systems (see Dial Systems)		VI - 0 -
Paris, Telephone Service with		V1—281
Patent Department		
Patents and Inventions	Roberts	11-205
Patents for Protection and Publication		
Patents, Curious, in Machine Switching.	Smith	VII—265
Permalloy (see Magnetic Materials)		
Perminvar (see Magnetic Materials)	7	11 0
Photoelectric Cells (see also Television) as Measuring Devices	Ives	11-185
as Measuring Devices	Croffi	111—201
Very Thin Films of Rubidium		
Picture Transmission in England	O'Brien	VII385
Pioneers (see Telephone Pioneers)		

....

Plant and Shops		
Building Service	Barker	III—120
Drinking Water System		IV-403
Heating System of the Laboratories	Van Zelm .	II— 76
Humidity Rooms	Wood	V—108
Installation of No. 604-C PBX		I-173
Liquid Air	Morrison .	I-259
Model Shop		I— 3
Replacement of Power Plant		I— 65
Rest Room in New Dress	Prouty	VII— 29
Section H		I— 89
Sound-Proof Rooms	Motley	VI-322
Transforming Our Power Supply		
Tube Shops		II—137
D1		
Plugs, History of	Neill	V-104
Plugs, Polishing the Contacts of	Adolph .	V 85
Polarity of Learning		
Power		. 37
Board, Semi-Remote Control of		I 11
Central Office Power Supply		
Commercial Generator for Central Office		,
Power Plants	Froberg	V-113
Equipment for Safeguarding Telephone		3
Service	Lowry	II 80
High Voltage Storage Battery	Dickinson .	
Interior Wiring for Laboratory	Heindel	
New Standards in Emergency Power-Sup-	11 cinuci	24
ply Units (Buffalo Type BA and R En-		
gines)	Callahan	VI-218
for the PBX	Lunsford	III— 87
Ringing Machines for Small Offices	DeKay	VII-246
Small Power Plants for Repeaters	Larege	VII—287
Storage "B" Battery Truck	Luica	
Supply for Radio Receivers		
Transforming Our Power Supply	Willard	
	Boeck	
Printed Forms	Sawyer	1V-233
Pressure Testing (see Maintenance)		
Printing Telegraphy (see Telegraphy)		
Private Branch Exchanges	**	****
		. VII—226
Continuous Charging for Automatic PBX's		
New Cordless Switchboard (No. 506) .	Fullerton	
New PBX for Laboratories		. I—173
Non-Multiple PBX (Type 551)	Cruser .	
	Lunsford	

740-A PBX	Ferguson .	VI—399
Probability		V-191
Professional Societies		I— 94
Public Address Systems (see also Amplifiers)		
Amplifier 32-A for	Dahl	II-236
Announcing Systems for Battleships	Melhuish .	IV-270
General Description	Dowey	III— 50
General Description		III—130
No. 1 at National Air Races		I-129
Observing March 10th (1-A Public Ad-		
dress System)		II— 18
dress System)	Danielson .	II-214
Pulse Corrector	Paine	VII-361
Quality Rating of Telephone Products		IV-392
Radio (see also Aircraft and Airways Com-	3	37
munication; Amplifiers; Loud Speakers)		
Radio-Broadcasting		
Broadcasting in the Near East		II— 82
Broadcasting		II— 60
Four Years' Progress in	01 1	III— I
Frequency Control for Broadcasting	Herber	VII- 24
Harmonic Suppression	Coram	VI-407
Installing Radio Broadcasting Equipment	Evans	I-229
One-Kilowatt Radio Transmitter for		,
Power Rating of Transmitters for	Glunt	V— 69
Power Supply for Radio Receivers	Curl	III—191
Radio Installation in South America	Newman .	V-216
When the Radio Squeals	Fracker	III—113
Radio—General		
Determining Short-Wave Paths	Friis	VI-359
Grid-Current Modulator	Keith	VII- 14
Ionized Regions in the Atmosphere	Heising	V—173
Long Waves or Short	Schelleng .	IV-349
Measuring Sets for	Jensen	II177
Radio—Miscellaneous		
New Radio Laboratory at Whippany		
Planning a Radio-Telephone System		II228
Short-Wave Oscillator	Englund .	V 49
Radio—Transatlantic, General		
Arlington-Paris Demonstration		I— 43
Echo Elimination in Transatlantic Service	Crawford .	V- 80
Transatlantic Telephony		V-190
Two-Way Transatlantic Radio Telephony	Mills	II 44
Radio, Transatlantic, Short-Wave		
Opening Service on Short Waves		VI-405
New Short-Wave Radio Stations		VII-435
Short-Wave Receiving Antennas		

Short-Wave Transmitting Antennas	Sterba	VII-502
Story of		
Transatlantic Short-Wave Receivers		
Transatlantic Short-Wave Transmitters .		VII—497
Transmitting Station at Lawrenceville .		VII—489
Railroads, Telephoning on		VII—422
Raw Materials, New Specifications for		
Receivers (see also Aircraft and Airways	1 otensena.	V-170
Communication; Amplifiers; Radio)		
Driving Coil for Loud-Speaking Receivers		
	Thuns	VI 400
No. 555-W	I nuras	VI409
Loud-Speaking Receiver No. 555-W		VI—205
Loud-Speaking Telephone No. 548		I—160
Loud-Speaking Telephone No. 560		V-201
Operators' Transmitters and Receivers .		•
What's a Good Loud Speaker?	Bostwick .	VII—347
Working Model Presented to National		
Museum		VII—176
Register Circuit, All-Relay	Raymond .	VII-400
Regulating System for Toll Cables		VII—183
Relays		3
Critical, of the Telephone System	Kuhn	VII— 51
Flat-Type	Mead	
Step-by-Step, Capability Engineering of .	Hibbard .	
Voice-Operated	Crawford .	
Remote Control of Power Station	Zogbaum .	
Repeaters, Small Power Plants for		
(see also Vacuum Tubes)	Larew	VII—20/
Research—		
	Findle.	II .6.
Department		
Design	Lamatt	VII 261
Mathematical		
Methods		
Organization		VI—349 II—161
Systematized		VI—313
		I—119
Retired from Active Service		IV—424
Retired from Active Service		VII—163
Ringing Machines for Small Offices	DaKas	VII—103 VII—246
Rotary File Type Information Desk		VII—246 VI—294
Rubber Compression Testing Machine		V—153
Rubidium, Very Thin Films of	Lahmenud	
		VI—371 I—124
Savings Plan		1—124
Semi-Remote Control Power Board. The		I 11

î

Senders (see Dial Systems and Equipment).		
Service Emblem, Our		I— 69
Service Honors		
1925		I—102
1927		V—148
1928		VII—249
Service, The Idea of	Hartnett .	III— 63
Short-Wave Radio (see Radio)		
Signalling		
History of		I-207
Telephone Signalling		I-241
"Signal Shaping" for Submarine Cables	Curtis	VI—237
Slide Rule for Vector Calculations	Kruger	VII-405
Sound—A Problem in Education	Thomas	II— 14
Sound Pictures (see also Sound)		
Amplification Behind the Talking Movies	Dahl	VI—285
Appreciation of, (N. Y. Times)		III— 8
General Principles of Sound Recording .	Wente	VII— 81
Installation and Adjustment of Western		
Electric Sound-Projector Systems	Santee	VII—112
Recent Advances in Wax Recording	Frederick .	VII— 85
Rotating the "Wax" for	Elmer	VII—445
Sound Projector Systems for Motion-Pic-		
ture Theatres	Scriven	VII—106
Sound Recording with the Light Valve .	MacKenzie	VII— 95
Speed Control for	Stoller	VII—101
The Vitaphone Tells Tales of Itself		III—126
Vitaphone — An Audible Motion Picture .	Maxfield .	II—200
Sound-Proof Rooms	Motley	VI-322
Sound Recording and Reproducing (see also		
Sound Pictures; Sound)		
An Epochal Advance in		I— 95
Electro-Mechanical Sound Recording	Maxfield .	I—197
Sound, Speech, Hearing, and Acoustics (see		
also Sound Pictures; Sound Recording		
and Reproducing)		
Acoustic Filters	Mason	VI-392
African Speech Electrically Recorded		I— 29
Audiometer, 5-A	Hoyt	V—159
Audiophone Receiver		I-128
Auditory Masking	Lane	II— 96
Children's Hearing	Fletcher .	II-154
Delayed Speech	Crawford .	V- 80
	Wegel	VII-147
Fundamentals of	Steinberg .	VII— 75
Hearing Aids and Deafness	Fletcher .	V— 33
Introduction to "Speech and Hearing".	Arnold	VII—217
or opecen and ricaring .		/

In Tune or Out of Tune	Steinberg .	II-234
Inverted Speech	Keith	
Loudness of Pure Tones		
	Wegel	
Phonograph Records Illustrating Distor-	9	,
tion	Kelly	III—204
Psychology Aids in Tests of Hearing	Betts	
Speech Sounds	Kelly	
Understanding Women	Steinberg .	
South America, Radio Installations in		
Spectrographic Analysis		
Speech (see Sound)	Schumacher	V1209
Speech (see Sound) Spinal Cord of a Nation		I 46
Steel, Shrinkage of		I— 40
Step-by-Step Systems (see Dial Systems) Stethoscope (see also Heart Sounds)	Sugal.	τ
Storage "B" Battery Trucks		I— 81
Storage Batteries (see Power)		
Straightforward Trunking		
Stranded Conductor for High Frequency .		
Stroboscopic Analysis	Kammerer .	III—176
	Elmer	VII-450
Student Assistants Dinner		I 35
Submarine Cables (see Cables)		
Swaging	Mead	III— 83
Switchboard No. 3 for Toll Lines	Porter	IV-337
Switches, Trunk-Hunting	Quass	VII—157
Symbols for Telephone and Telegraph Use .	Heard	VII—368
Talking Pictures (see Sound Pictures)		
Technical Papers, List of		VI—264
Technical Reprint Series		
Telegraphy (see also Cables, Carrier-Cur-		
rent Systems, Toll Systems)		
Artificial Line	Hoernel .	I 51
Carrier-Current Telegraphy	Bell	I—187
Carrier Telegraph in Canada	Burkholder	VI—248
Codes in Electrical Communication		V—181
Composite Telegraphy	Bell	VII140
Contracts with Western Union and Postal		
Telegraph Companies		VII— 28
New Equipment for Voice-Frequency		
Telegraphy	Mahoney .	VII-241
Printing Telegraph Between Airports		VII— 35
Printing Telegraph	McMurry .	III— 3
Printing Telegraph Connections with		
Hawthorne	McCormack	II—121
Telegraph Equipment	Meyer	II—103

Transmission Limits of Telephone Lines.	Hartley	I-225
Telephone Dictation	Payor	I-122
Telephone Pioneers (see also Biography)		
of America		I— 92
Devonshire, Robert W		V— 6
Five New Telephone Pioneers		V- 25
Telephony, The Silent Drama of		III— 39
Telephotograph System in U. S., Map of .		V— 61
Television (see also Photoelectric Cells)	1	VII
in Colors		VII—439
Direct Scanning in	Gray	VII—276 IV—297
		IV—297 IV—325
"Ghosts" due to Heavyside Layer Light of a Television Eye	Gran	VI 325
New Devices in	Gray	VI—325 V—215
of Outdoor Scenes		VI—402
Personnel Engaged in Development		IV—317
Tersonner Engaged in Development		IV-326
		IV-413
Photographs of Apparatus		VII— 64
Physical Principles and Apparatus of .		IV-307
by Radio		IV-305
Research and Development Leading to		IV-313
Speech and Vision on the Same Carrier		0 0
Wave		IV-325
Timer	Stoller	IV-386
Transmission Limits of Telephone Lines.	Hartley	I-225
Terminals, Cable		
No 8, No. 14	Gilson	VI—366
Types B, BB, EA, EU, C	Dring	VII— 11
Testing (see Measurements and Testing)		
Textiles used as Insulation (see Insulation)		
Thermal Agitation of Electricity		III—185
Time-Keeping in the Laboratories		I—110
Toll Systems and Apparatus (see also Car-		
rier-Current Systems; Radio-Transat-		
lantic; Telegraphy)		****
Locating Faults on Toll Lines	Pascarella .	VII—161
Saving Lead in Toll Office Cables	Kenner	VII—273
Toll-Line Signalling	Wilbur	VII—391
Toll Switchboards	Porter	IV—337
Toll Tickets, Mechanical Distribution of .	V an Inwagen	III— 72
Transmission Regulating System for Toll		
Cables	Johnson	VII—183
Train Dispatching Systems and Apparatus		
Amplifier for (No. 33-A)		IV-229
Dispatching Trains by Telephone	Field	III—108

Rectifier for (No. 60-A)	Field	IV-230
Telephone and the Switching Locomotive	Betts	II— 79
Trains, Telephoning to		VII-432
Transformers		
Evolution of the Input Transformer	Field	III— 33
Permalloy in Audio Transformers		VI—259
Transforming Our Power Supply	Willard .	
Transmission Limits of Telephone Lines .	Hartley	I-225
Transmission Measuring (see Measurements)	•	,
Transmitters (see Radio-Broadcasting;		
Radio—Transatlantic)		
Life Test	Hayes	III— 94
and Receivers, Operators	Beardsley .	VII—203
Working Model Presented to National		
Museum		VII—176
Trouble Indicator		
Trunk Hunting Switches	Quass	VII-157
"TU" Becomes Decibel	Hartley	VII—137
Vacuum Tubes (see also Photoelectric Cells;		
Radio; Television)		
Grid-Current Modulator		VII— 14
Ionization Manometer		III— 26
Life History of an Adsorbed Atom		V— I2
Manufacture of Vacuum Tubes		II—137
Marking the Overload Point		IV-261
Platinum Alloys for Filaments		V-242
Reducing the Cost of Electrons		III— 69
Small Power Plants for Repeaters	Larew	VII—287
Water Cooling for Radio		V-22I
Water Cooling in Radio Broadcasting .	Gargan	I-251
Vail Medal Awards		
For 1925		II—160
For 1926		IV-380
To Edward Reilly		IV-432
For 1927		VI—344
For 1928		VII-423
Vector Calculations, A Slide Rule for	Kruger	VII-405
Victor Orthophonic (see Sound Recording)		
Vitaphone (see Sound Pictures)		
Voice (see Sound)		
	Mathison .	IV-390
Wax Recording (see Sound Recording and Reproducing)		
Western Electric Takes Over Inspection		
·		I—125
Whippany, Radio Laboratory at		III— 46

